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# What Types of Flashcards Improve Science Test Performance?

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# What Types of Flashcards Improve Science Test Performance?

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Flashcards are one of the most popular study methods that students use to study for exams, helping to enhance memory and increase test performance. However, little is known about the mechanism of the benefits of creating flashcards and the type of flashcards that are the most effective. In this experiment, we explore whether self-generated flashcards result in better test performance than company-provided flashcards. We are also interested in illuminating potential methods to create better flashcards. Participants read different passages—a biological anthropology passage about dating methods or a geology passage about tectonic plates—and were in different study conditions. The study conditions included one group that self-generated flashcards, a group that received company-provided flashcards, a group that instructed participants to create conceptual flashcards, and a group that was given paper and pen as a "free study" group. After the study period, the participants took a quiz which included eight multiple-choice questions and five free-response questions. The free-response targeted conceptual information whereas the multiple-choice targeted the retention of the presented information, a mixture common in science exams. We hypothesize that the group who generates conceptual flashcards will perform the best and that in general, generating flashcards will be more beneficial than being provided flashcards. The results should contribute to a more comprehensive understanding of how and what kind of flashcards are useful for students.